REMARKS

Applicants respectfully request reconsideration in view of the above amendments and the following remarks. Applicants amend claims 1, 10, 16 and 25. Applicants do not add any claims or cancel any claims. Accordingly, claims 1-30 remain pending in the application.

I.   Interview Summary

A telephone interview ("Interview") took place between Examiner and his supervisor and the attorney for Applicant and her supervisor, on November 20, 2006. It was agreed that a "first control independent instruction," as disclosed in "Reducing Branch Misprediction Penalties Via Dynamic Control Independence Detection" by Chou et al. (hereinafter "Chou"), is equivalent to a "convergence point" as disclosed in the Application. A first control independent instruction or convergence point, however, is not equivalent to an "exact convergence point." Rather, an exact convergence point is a particular type of convergence point.

Further, although Chou discloses detecting a first control independent instruction, such first control independent instruction may or may not happen to be an exact convergence point, and Chou does not disclose the recognition of such first control independent instruction as an exact convergence point as opposed to a non-exact convergence point. Thus, should the independent claims be amended so as to clarify that the invention recognizes an *exact* convergence point as distinguished from a convergence point in general, the reference as currently understood would be overcome.

II.   Claims Rejected Under 35 U.S.C. § 103

Claims 1-5, 8-14, 16-20 and 23-29 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over "Reducing Branch Misprediction Penalties Via Dynamic Control

Independence Detection" by Chou et al. (hereinafter "Chou"), in view of U.S. Patent No. 6,542,984 issued to Keller, et al (hereinafter "Keller"), and further in view of U.S. Patent No. 6,192,465 (hereinafter "Roberts").

To establish a *prima facie* case of obviousness Examiner must show that the cited references teach or suggest each of the elements of a claim. In regard to claims 1 and 16, as amended, these claims include "a first circuit to detect an exact convergence point subsequent to said branch location in said program and to recognize the exact convergence point as an exact convergence point" (emphasis added). Applicants believe that Chou in view of Keller and further in view of Roberts does not teach or suggest these elements of claims 1 and 16.

As discussed in the Interview, Chou does not disclose the recognition of any first control independent instruction, or convergence point, particularly as an *exact* convergence point, which is a convergence point during a case of exact convergence, "where the mispredicted path converges exactly at the beginning of the correct path." (Application ¶ 0015). Thus, Chou does not teach "a first circuit to detect an exact convergence point subsequent to said branch location in said program and to recognize the exact convergence point as an exact convergence point."

Examiner has not relied upon and Applicants have been unable to discern any part of Keller or Roberts that teaches these elements of claims 1 and 16. Thus, Chou in view of Keller and further in view of Roberts does not teach or suggest each of the elements of claims 1 and 16, as amended. Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 1 and 16 are requested.

In regard to claims 2-5, 8, 9, 17-20, 23 and 24, these claims depend from independent claims 1 and 16, respectively, and incorporate the limitations thereof. Thus, at least for the reasons mentioned above in regard to independent claims 1 and 16 these claims are not obvious

over <u>Chou</u> in view of <u>Keller</u> and further in view of <u>Roberts</u>. Accordingly, reconsideration and withdrawal of the obviousness rejection of these claims are requested.

In regard to claims 10 and 25, as amended, these claims include the elements of "re-executing a second selected subset of said set of instructions subsequent to an exact convergence point <u>that is recognized as an exact convergence point</u>" (emphasis added). Applicants believe that <u>Chou</u> in view of <u>Keller</u> and further in view of <u>Roberts</u> does not teach or suggest these elements of claims 10 and 25. As explained above in regard to claims 1 and 16, <u>Chou</u> does not disclose recognizing any convergence point as an exact convergence point.

Examiner has not relied upon and Applicants have been unable to discern any part of <u>Keller</u> or <u>Roberts</u> that teaches these elements of claims 10 and 25. Thus, <u>Chou</u> in view of <u>Keller</u> and further in view of <u>Roberts</u> does not teach or suggest each of the elements of claims 10 and 25, as amended. Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 10 and 25 are requested.

In regard to claims 11-14 and 26-29, these claims depend from independent claims 10 and 25, respectively, and incorporate the limitations thereof. Thus, at least the reasons mentioned above in regard to independent claims 10 and 25 these claims are not obvious over <u>Chou</u> in view of <u>Keller</u> and further in view of <u>Roberts</u>. Accordingly, reconsideration and withdrawal of the obviousness rejection of these claims are requested.

Claims 6 and 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over <u>Chou</u> in view of <u>Keller</u> in view of <u>Roberts</u> and further in view of "Computer Architecture: A Quantitative Approach" by Hennessey et al., (hereinafter "<u>Hennessey</u>").

Claims 6 and 21 depend from independent claims 1 and 16, respectively, and these claims incorporate the limitations of their respective independent claims. Thus, at least for the reasons mentioned above in regard to independent claims 1 and 16, <u>Chou</u> in view of <u>Keller</u> and further in

view of Roberts does not teach each of the elements of these claims. Further, Hennessey does not cure the defects of Chou, Keller, and Roberts. Examiner has not relied upon and Applicants have been unable to discern any part of Hennessey that teaches or suggests a first circuit to detect an exact convergence point. Thus, Chou, Keller, Roberts and Hennessey do not teach or suggest each of the elements of claims 6 and 21. Accordingly, reconsideration and withdrawal of the obviousness rejection of these claims are requested.

Claims 7 and 22 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Chou in view of Keller in view of Roberts in view of Hennessey and in further view of "Branch Prediction Using Selective Branch Inversion" by Manne et al. (hereinafter "Manne").

Claims 7 and 22 depend from independent claims 1 and 16 and incorporate the limitations thereof. Thus, at least for the reasons mentioned above in regard to independent claims 1 and 16, Chou, Keller, and Roberts do not teach or suggest each of the elements of these claims. Further, neither Hennessey nor Manne cures the defects of Chou, Keller, and Roberts. Examiner has not relied upon and Applicants have been unable to discern any part of Hennessey or Manne that teaches or suggests a first circuit to detect an exact convergence point. Thus, Chou, Keller, Roberts, Hennessey and Manne fail to teach or suggest each of the elements of claims 7 and 22. Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 7 and 22 are requested.

Claims 15 and 30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Chou in view of Keller in view of Roberts and in further view of Manne.

Claims 15 and 30 depend from independent claims 10 and 25, respectively, and incorporate the limitations thereof. Thus, at least for the reasons mentioned above in regard to independent claims 10 and 25, Chou, Keller, and Roberts fail to teach each of the elements of these claims. Further, Manne does not cure the defects of Chou, Keller, and Roberts. Examiner

has not relied upon and Applicants have been unable to discern any part of <u>Manne</u> that teaches or suggests a first circuit to detect an exact convergence point. Thus, <u>Chou</u>, <u>Keller</u>, <u>Roberts</u> and <u>Manne</u> do not teach or suggest each of the elements of claims 15 and 30. Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 15 and 30 are requested.
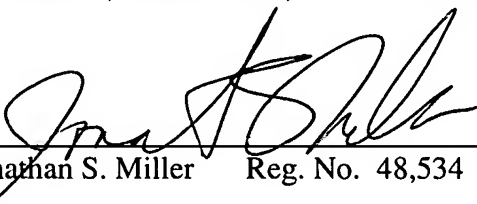
CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-30, patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If Examiner believes that a telephone conference would be useful in moving the application forward to allowance, Examiner is encouraged to contact the undersigned at (310) 207 3800.

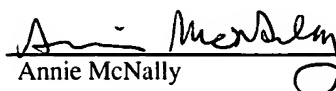Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: __November 27, 2006__

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Annie McNally   11/27/2006
                                 Date